WASHINGTON, DC— Congressman Joe Sestak is pleased to announce that the U.S. Department of Defense Authorization bill for fiscal year 2008 includes $36.8 million in authorized federal funding for numerous Pennsylvania projects and products located in the 7th District. The bill passed the House Armed Services Committee late last night. It now will go to the House floor for approval.

"This funding will launch and continue many vital research efforts in equipment technology, bio-terrorism, wireless technologies and software in Pennsylvania that assist our men and women in uniform," stated Congressman Sestak. "I am proud to have secured authorized funding for these critical programs in the Defense Authorization bill. Such investments in defense technologies and research will not only benefit our military but will also continue to drive our local and national economy forward."

$9.5 Million for Piasecki Aircraft Corporation for Vectored Thrust Ducted Propeller (VTDP) Compound Helicopter Advanced Technology Flight Demonstration Program (Army Research & Development)
This program flight demonstrates the Vectored Thrust Ducted Propeller (VTDP) Compound Helicopter technology's potential to increase rotorcraft speed, range, survivability, and reduced life cycle costs. This funding will allow for continued research and development of this innovative technology. The VTDP Compound Helicopter technology addresses significant Defense rotorcraft capability gaps, including the need for (i) enhanced self-deployment, (ii) expanded air assault and combat logistics support out to 1000km, (iii) force sustainment and rapid MEDEVAC of victims to critical care facilities from operational distances, and (iv) improved reliability and readiness levels.

$6 million for Fairmount Automation for a Diagnostic/Prognostic Pump System (Navy Research & Development)
In response to a Navy requirement, this funding will be used by Fairmount Automation to develop a Two-Screw Magnetic Drive pump system with diagnostic/prognostic capabilities. The system will provide a diagnosis of pump components and provide a prognosis of the time-to-failure while identifying the affected components giving their current state and estimating remaining useful lifetime. This knowledge allows for proactive maintenance, thereby eliminating the need to disassemble a system to perform a condition assessment and the need for planned maintenance. It also enables the management of potential problems before crucial systems fail. In addition, it will provide savings on inventory and reduce the need for redundant systems, thereby reducing weight and freeing up space on naval ships.

$4.1 million for LithChem for an Advanced Lithium Battery System for Multiple Kill Vehicle (MVK) with Double the Power (Defense Research & Development)
Thermal reserve batteries are an important necessary component for the proper function and optimum performance of guided missiles, many munitions systems, rockets, and other military systems requiring instant high power after a long period of storage. The technology and performance for these difficult, expensive, hand made batteries has not changed appreciably in 20 years. LithChem (Toxco) has developed a new safe, primary prismatic lithium reserve

cell/battery (non-thermal) which has 8 times the power density (4 kW/kg) and twice the energy density (120 Wh/kg) over the current reserve batteries. This new LithChem cell operates at 4.3 V compared to the 1.5 V of the current reserve battery cells providing additional savings in space and weight and also has long term storability. Not only are these performance features a major advance for reserve batteries, but these new LithChem cells will have a much lower unit cost with increased reliability due to a unique automated cell manufacturing process. In this program, LithChem will work with Lockheed-Martin to develop and manufacture this new battery for the Multiple Kill Vehicle as a first application and demonstration of this major improvement in reserve batteries for the Missile Defense Agency. The successful development and manufacture of this new high power reserve battery will offer an opportunity for the first substantial improvement in performance cost, and reliability in 20 years in reserve batteries. This dramatically improved LithChem reserve battery will add significant performance improvement for current and future US guided missile systems, rockets, and smart munitions. LithChem will become a significant new All-American battery supplier to the US Government.

$3 million for Rajant for a Portable Mobile Emergency Broadband Systems (PMEBS) (Army Research & Development)
The Rajant Corporation, in conjunction with CECOM/CERDEC, has developed a portable wireless digital broadband system that has distinctive and broad applications for the military. These systems consist of portable battery powered units called BreadCrumb® which offer a solution for military personnel seeking to have access to high bandwidth wireless networks in any situation and any environment. Breadcrumb portable and wireless networks are easy to deploy, secure, portable and give war fighters access to vital information at crucial times, thus helping to save time, money and most importantly, lives. Each BreadCrumb device is a small, battery-operated unit that has the capabilities of: 1) instantly establishing a wireless backbone network with other BreadCrumb devices; 2) operating as a wireless or wired network access point for computers, sensors, video cameras and voice communication devices compliant with networking standards; and 3) bridging communications on the BreadCrumb network with other wired and wireless networks. Different versions of BreadCrumbs have been developed to address specific needs and allowing them to be worn by personnel, attached to a moving vehicle, or used in any environment or terrain. Funding will be used to further improve mobility, range, bandwidth and portability. Development in these areas will focus on size reduction, improved packaging, lower power consumption, improved radio and antenna performance, enhanced security key management, and other factors improving the design of the mobile/portable devices. This will also include packaging and powering improvements to further enhance the wearable capabilities of the BreadCrumb devices while meeting the intrinsically save requirements for use in hazardous environments.

$3 million for Gestalt for Distributed Mission Interoperability Toolkit (DMIT) (Air Force Research & Development)
DMIT is a suite of tools that enables an enterprise architecture for on-demand, trusted, interoperability among and between mission-oriented C4I systems based on lessons learned from Operation Iraqi Freedom. This funding will allow DMIT to be extended to Joint and coalition requirements, as well as address current strategic weaknesses in Air Force AOC management years ahead of current schedules. DMIT has already begun joint integration of time-critical-targeting with the Air Force, Army, and Navy. DMIT’s use of commercial

services-based architectures and telephony standards allows interactive information sharing between mission critical applications by breaking down the traditional application stovepipes. This services-based architecture is critical to supporting Joint and coalition missions and exercises because of the requirement for rapid event staging, complex security levels, and involves diverse participants.

$1.75 million for Lockheed for Tomahawk and Tomahawk Mission Planning Center (Navy Research & Development)
The Tomahawk Weapons Control System (TTWCS) provides the launch capability for surface and submarine platforms. TTWCS provides the user interface to all shipboard functions related to Tomahawk launch. It interfaces with external systems for command and control, situational awareness and to obtain required data to initialize the Tomahawk cruise missile before launch. After launch, TTWCS interfaces with the missile in flight, via satellite communications, to provide in-flight monitor and control functions. This funding will be used for continued development of TTWCS capabilities.

$1.65 million for Dragonfly Pictures, Inc. for Beneficial Infrastructure for Rotorcraft Risk Reduction Demonstrations (BIRRRD) (Army Research & Development)
The Army Research Lab has requested a number of DP-5X aircraft to test advanced blade, engine, weapon, and tail boom technologies that it has developed for manned and unmanned rotorcraft. This funding will be used by Dragonfly Pictures to deliver two DP-5X unmanned helicopters to the Army Research Lab (ARL).

$1.5 million for Environmental Tectonics Corporation for Joint Strike Fighter Authentic Tactical Flight Simulator (Air Force Research & Development)
Environmental Tectonics Corporation has created the first high-fidelity “flyable” centrifuge by wedding the two technologies of flight simulation and human rated centrifuge, including appropriate G onset and G cuing, actual cockpit configuration and aircraft dynamics, and high fidelity visual and physical simulation. This funding will support testing and evaluation of a Joint Strike Fighter (JSF) Tactical Aircraft Configuration Module (TACModule).

$1.25 million for Clear Allign for Low Cost - Laser Module Assembly for the Navy’s Acoustic Sensors (LC- LMA) (Navy Research & Development)
With USS Virginia now at sea, Fiber Optic Acoustic Systems (FOAS) are demonstrating the inherent lower cost and higher reliability promised by their introduction on the Light Weight Aperture Array. To continue these submarine sonar system cost reductions and performance improvements, Clear Allign will use this funding to develop a low cost US source of Laser Module Assembly. This will give the Navy’s submarine force the ability to take on the quieter enemy diesel-electric submarines in littoral waters and operate effectively in mine infested waters.

$1.25 million for PolyMedix for an Initiative for Defense Against Bio-Warfare and Bio-Terrorism (Defense Research & Development)
Funding will be used by PolyMedix to develop antimicrobial drugs with a completely novel mechanism of action that is unlikely to allow development of resistance, and which is expected to be effective against a wide range of bacterial agents and even against pathogens that have

been bio-engineered to resist existing antibiotics (because it attacks the bacterial cell wall, not the bacterial metabolic machinery). The requirement relates to the enhanced degree of readiness that has been made a top priority since 9/11, and which has been made a priority in all branches of the military.

$1 million for Villanova for National Applied Software Engineering Center (NASEC) Intelligent Representation and Analysis (IRA) (Defense Research & Development)
The proposed effort will develop real-time visual situation display/representation of evolving situations, analysis of evolving situations in light of past situations, intelligent search and analysis of stored situation data, space-time adaptive processing of radar data, smart transceivers for secure and efficient information-sharing, and fast semi-conductor switches for increased robustness against interference or jamming.

$850,000 for Silicon Power for Electromagnetic Gun Initiative (Army Research & Development)
Silicon Power Corporation designs, fabricates and markets a wide range of power semiconductor devices for a wide variety of pulse power and power applications. This funding would be used to further develop advanced Lightweight Silicon Switch (LSS) technology for use as the primary pulse-power switching element in a mobile electromagnetic gun system (EMGun). The goal of the effort is to prototype an enhanced 125-millimeter switch based on LSS technology and perform a preliminary design of a 150-millimeter LSS switch that would achieve the established performance requirements for the Army’s target EM Gun system.

$500,000 for InterDigital Communications for Advanced Wireless Technologies (Army Research & Development)
InterDigital Communications Corporations is a company that designs, develops, and provides advanced wireless technologies and products that drive voice and data communications. Funding would used to adapt 3G commercial wireless technology for application in several important military programs. Specifically it will demonstrate the feasibility of a 3G tactical wireless handset, including delivery of a prototype radio chipset, that can operate in a frequency band that has been selected by the government allowing for worldwide terrestrial operation. Currently, US military communications systems do not utilize the most advanced Third Generation (3G) wireless technology.

$500,000 for NP Precision for production, testing and approval of second source manufacturers of critical flight safety spares/parts for military and cargo helicopters in critical supply shortage (Army Research & Development)
Funding would be used by NP Precision to produce, test and approve second source manufacturers of rotorcraft critical flight safety spares/ parts for military and cargo helicopters, such as the CH-47 Chinook, whose parts are now in critical shortage and threaten sustainment and support of our military efforts throughout the world. A solution to the spare parts shortage proposed by the Army is to approve more qualified manufacturers and precision machine shops, so as to meet the greater demand for these parts, and create a downward pressure on pricing.

$450,000 for SAP America for Theater Enterprise Wide Logistics System (TEWLS) (Defense

Research & Development)
TEWLS supports critical medical logistics war fighter requirements for the intermediate level and theater support levels. It represents a technical replacement for the TAMMIS functional capabilities and provides a centralized system approach by using ERP based COTS software. It ties the support base, intermediate level support units and forward distribution units into a single data environment. TEWLS supports today's modern, non-contiguous battlefield at the regional, COCOM, and Service levels by leveraging emerging Medical Material Executive Agency and Theater Lead Agent infrastructure concepts to manage the entire medical supply chain from the industrial base to the end users. SAP is the world's second largest software suppliers and provides the software backbone and consulting services that are driving the Theater Enterprise Wide Logistics System (TEWLS). Funding would be used to support this important software system.

$250,000 for Arkema for Economical Lightweight Shelters Offering Enhanced Chemical and Biological Protection (Army Research & Development)
US Military is required to shelter and protect its troops and equipment in multiple locations, worldwide. One of the challenges the government faces is providing a cost effective shelter. In fact the average cost of a two man tent is $3000. Arkema, Inc has a solution that not only reduces the cost but also improves the performance. They have a non-woven substrate that exhibits 91% improved tear strength (CD) and 81% improved grab strength (CD). It also offers better chemical and biological resistance. The use of this material will not only improve performance but reduce the weight of the shelter by 30 – 40 %, allowing a larger number of shelters to be delivered in an air load (or helicopter load). From pure economics, each pound saved is worth $50 - $100 to the Government in life-cycle cost. Finally, the product is made from the naturally-grown castor plant and functions as a true renewable resource. This project will focus on optimizing and qualifying the non-woven substrate into shelters.

$250,000 for Engineered Arresting Systems Corporation for Low Profile Arresting Gear (Air Force Research & Development)
Numerous airports across the United States host both military and commercial flight operations concurrently. Base Realignment and Closure (BRAC) initiatives and the increased use of military aircraft to maintain security has increased. Many military tactical aircraft have arresting hooks for use in emergency situations. The installation of arresting equipment for military use may cause interference to large commercial aircraft due to the size of the arresting engines and their close proximity to the runway. The U.S. Air Force has introduced the Airfield Obstruction Reduction Initiative (AORI) program to address this problem. One initiative is the introduction of a Low Profile Arresting Gear (LPAG) that minimizes physical interference and obstructions to commercial aircraft. With the increased number of joint use airfields, there is a need to provide emergency arrestment capability to tactical aircraft that is compatible with civilian aircraft size and runway requirements. This funding will be used by ESCO to provide that emergency arrestment capability.